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ABSTRACT

This manual is a camp director's or teacher's guide to utilizing an outdoor education facility. Specifically, it details an area being studied in Wausau, Wisconsin; gives principles, objectives, and philosophy of that outdoor education program; and lists responsibilities of this program coordinator and committee. The remainder of the manual includes activities that can be modified for most locations. There is a detailed discussion of teacher responsibilities including organizational and planning activities. A sample parental permission form is included in this section. Lists of equipment needed by teachers and students are also given. Activities for the elementary grade students are interdisciplinary in approach and include bird games, tree lists, crossword puzzles, and story problems. Students are taught woods etiquette and camping responsibilities. (MA)

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WAUSAU DISTRICT PUBLIC SCHOOLS

OUTDOOR EDUCATION

CAMP DIRECTOR'S MANUAL

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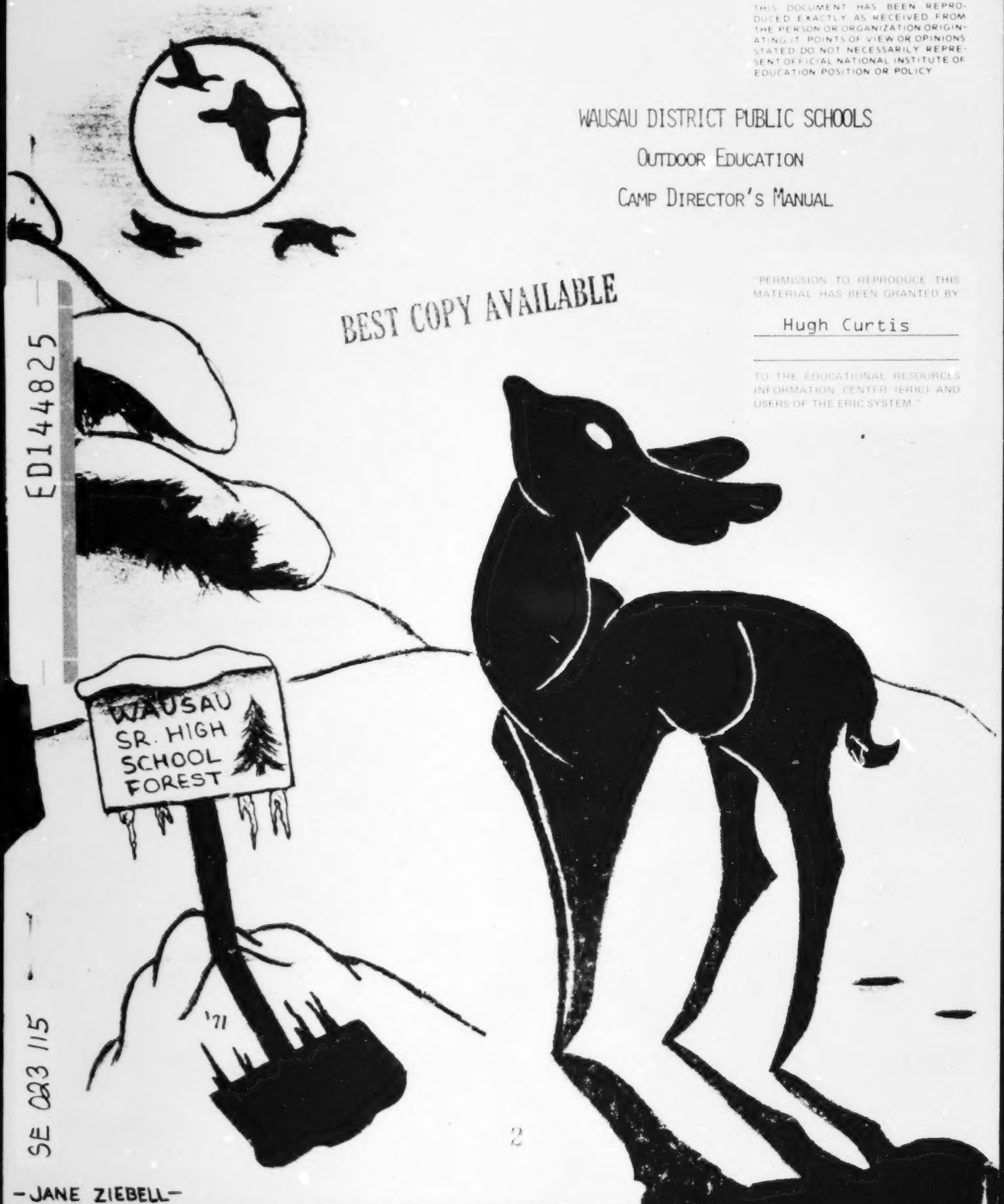

SE 023 115

-JANE ZIEBELL-

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WAUSAU DISTRICT PUBLIC SCHOOLS

WAUSAU OUTDOOR EDUCATION CENTER

TEACHER-DIRECTOR MANUAL

OUR OUTDOOR EDUCATION PHILOSOPHY

Outdoor education should be a method of conceptual learning which permits man's full use of all his senses, to be employed in his search for the truths of nature and of his own life. It should be a tool which can be used to better enrich understanding of the relationships to his natural environment through total involvement in the learning situation. Outdoor education implies the use of all learning situations outside the regular classroom both social and environmental. It would be an inter-disciplinary approach to education which allows the total study of life's meanings.

PRINCIPLES

The following principles govern the school camp.

1. School camps should be co-educational.
2. The school camp should be operated as reasonably as possible.
3. The school camp operates on a twenty-four hour day proposition.
4. Planned and unplanned experiences are part of the total camp program.
5. Learning is provided through direct experience.
6. Problem solving is carried on before, during and after the camp period.
7. The activities and learning experiences taking place at camp are not found in the traditional classroom.
8. Co-operation rather than competition is stressed.

OBJECTIVES

1. To learn to live democratically with other children and with adults.
2. To gain an understanding and appreciation of the out-of-doors.
3. To learn to become more self-reliant, particularly in the outdoors.
4. To grow in understandings, practices and attitudes toward safe and healthful living.
5. To achieve life enrichment through experiences which provide channels for spiritual expression, adventure and wholesome recreation.
6. To enable teachers to gain a better understanding of children through situations outside the classroom.
7. To have children gain independence from their families.
8. To give the children a chance to meet new friends.
9. To give some children a chance to excel who may not have had a chance before.

Objectives (cont'd.)

10. To give children a chance to work cooperatively and democratically together in operating the camp and its program.

11. To gain a recognition of some of the common resources and to acquire an understanding as to what is involved in their wise use.

12. To make classroom learnings more meaningful through the application of knowledge to practical outdoor situations.

13. To formulate problems, gain first hand facts and information about them and to use the problems and values gained in subsequent classroom situations.

RESPONSIBILITIES OF THE OUTDOOR EDUCATION COMMITTEE

1. To develop long range plans for an effective Outdoor Education Program on a K-12 basis.

2. To develop and make curriculum recommendations to the directors of Elementary and Secondary Education and to the Superintendent of Schools.

3. Conduct inservice training programs for the elementary teachers.

4. Recommend to the Board of Directors of the School Forest necessary improvements and changes at the Outdoor Education facilities.

COORDINATOR OF OUTDOOR EDUCATION AND SCHOOL FORESTS

1. Chairman of the School Forest Board of Directors.

2. Arrange for and keep a schedule of the school camp periods.

3. Assist classroom teachers in planning their school camp program.

4. Interview student counselors.

5. Arrange for camp custodian and camp cooks.

6. Maintain facilities at school camp.

7. Develop educational displays and lessons in outdoor education for use by the professional staff.

8. Conduct precamp orientation with students, teachers, and parents.

9. Serve as a resource person for camp instruction.

FACTS OF THE WAUSAU HIGH SCHOOL FOREST

In 1941 the school forest was started, with 306 acres of land being donated by Arthur W. Prehn and Erwin Prehn of the City of Wausau, the Mosinee Paper Mills and Marathon County.

In 1942 the first tree plantings of 12,000 Red Pine took place under the direction of Ray Burton and G. W. Bannerman. Planting was done by the First Conservation Club organized in Wausau Senior High School by Mr. Burton.

1943 saw an additional 12,000 Red Pine planted.

In 1944, 40,000 Red and White Pine were planted by 300 Conservation Club Members. This is believed to be the largest tree planting in school forest history of both the state and nation, in which the work was done by hand in one day.

In 1945, 15,000 Red and White Pine were planted. The School Forest Lodge, originally a Civilian Conservation Corps Barracks, was moved to the School Forest, during the late winter. M. Burton and Lyle Fuller, of the Marathon County Road Commission were in charge. Henry Fenderer did the moving. The building was cut into three parts, each part moved separately and then reassembled at the school forest.

In the years of 1947-48-49, 30,000 Red and White Pine were planted.

10,000 Red and White Pine were planted and the first School Forest Board of Directors was formed in 1950.

In 1951, 6,000 Red and White Pine planted in areas where previous seedlings died. Work was started on paneling in the lodge.

In 1952, 5,000 Red Pine were planted. Work was done on the Nature Trail and in the timber lot. Paneling was continued in the lodge and a well and drain were built.

In 1953 another 5,000 Red and White Pine were planted. Work continued in the lodge. Physical Education equipment room was built in the classroom area of the lodge. Timber cutting and disease control was conducted in the forest. 1,000 wildlife shrubs were planted to promote propagation of wildlife. Flag pole was erected in front of lodge. Paneling continued and work was done in the parking lot. Biology classes were held at the forest.

In 1954 the school forest was used by the Elementary Schools for the first time. 5,000 Red and White Pine were planted.

During 1955, 5,000 Red Pine were planted and 1,000 wildlife shrubbery plants. Stone gate posts were built at the entrance to the road leading to the lodge. 300 Christmas trees were sold.

5,000 Red Pine, 1,000 wildlife shrubs, 100 Balsam fir were planted in 1956. Concrete block foundation was started for the lodge. 185 Christmas trees were sold.

In 1957 an electric power line was brought into the forest and the lodge was wired. A film for the "Voice of America" was filmed at the forest by the Wisconsin Conservation Department. 70 Christmas trees were sold at the school lot. The foundation of the lodge was completed.

7,000 Red Pine, 100 Colorado Blue Spruce, and 250 Balsam fir were planted. The athletic field was improved and the new roof was put on the lodge.

The big event in 1959 was a memorial program for the school forest, held at the Senior High School on May 1. Lt. Gov. Nash was the main speaker. Many members of the first Conservation Club were present, besides the many people who helped contribute to the growth of the school forest. Mr. Burton was presented a gift, as a token of appreciation for the many years of service to the school forest. Lt. Gov. Nash planted a Blue Spruce in front of the lodge commenorating this event.

In 1960 the improvements that were made to the club house included a new blackboard, chimney screen, new back step, a new ceiling in the center room, and repair to the shutters. The first cabin was built for the Outdoor Education program. Mr. Gjetson supervised the work of the students and teachers. The Wausau Senior High School paid for this cabin.

In 1961 a new ceiling was installed in the dining room and kitchen of the lodge. The second cabin was constructed with the funds being made available by the Junior and Senior High Schools. The elementary school P-TA's contributed a fund of money to be used to purchase equipment needed in the lodge. The lodge was improved by the installation of a new tile floor in the kitchen, dining hall, and lounge. Kitchen equipment was obtained from the former high school cafeteria. A new sink, hot water heater, and refrigerator were placed in the kitchen. The elementary school camping experience was held for the first time at the Wausau Outdoor Education Center.

Cabins three and four were constructed in 1961-62. Wausau Senior High School financed these two buildings; however, the Elementary School P-TA's re-imbursed the Senior High School for Cabin Four over a four year period. The new ceiling and tile floors were completed in the Lodge. $550.00 was invested in hickory furniture for the lounge area, and new tables were purchased for the dining room. A gate was installed in the driveway leading to the camp campus by the Senior High Metals Classes. Over 3,000 people made use of the Outdoor Education Center during 1961-62.

During the summer of 1964 a shower and washroom unit was constructed. The museum was also completed. The garage constructed by students of the Senior High advance woodworking class was also completed at this time.

In 1964, forty additional acres were purchased with Senior High activity funds. This was the Slagoski property.

During the summer of 1966, an amphitheater was built by N.Y.C. students. Materials were paid for from the Ray Burton Memorial Fund. A memorial plaque was laid indicating that this was to be the Burton Memorial.

In 1966 a shelter was built in honor of G.W. Bannerman for his many years of service to the Wausau District Schools. Funds to complete this project were donated by Elementary School Personnel.

A council ring was completed in 1967. Part of the work was done by N.Y.C. students during the summer. The rest of the work was completed by Senior High Conservation Club members.

During 1968, a counselors cabin was completed. Funds for this structure were taken from pulp sales. Also, during the 1968 school year, the fifth cabin was constructed. A range, refrigerator, and other kitchen equipment was purchased from the Marathon Park Commission to improve the kitchen facilities.

During the summer of 1969 an obstacle course was built and the sixth cabin was completed.

During 1970 and 1971 the seventh and eighth cabins were built.

CLASSROOM TEACHER RESPONSIBILITIES

PRE-CAMP

1. Obtain permission from the school principal to participate in a camp program or one-day field trip.
2. Establish your aims and objectives.
3. Make complete plans for the camp period.
   A. Program
   B. Resource People
   C. Supplies
4. Plan for rainy day activities.
5. Requisition school bus for pupils and a truck for luggage from Director of Transportation.
6. Assign cabin and work groups.
7. Plan camp rules.
8. Visit the camp prior to your camping session to check facilities and make sure they are in order.
9. Requisition films and filmstrips if you desire equipment in addition to what is maintained at the camp.

DURING CAMP

1. Provide adequate supervision for camp groups at all times.
2. Stick to the planned schedule when resource people are on the program.
3. Plan time for conferences with counselors.

4. Give counselors a break during the day, but make it clear that they must stay with their cabin groups after lights have been turned out.

5. When leaving camp, be sure the camp area and buildings are in order for the next group.

POST-CAMP

1. Provide for follow up with subject areas. Camp sessions should not contain subjects taught in isolation.

2. Have students write thank you letters to counselors and resource personnel.

3. Have students evaluate their outdoor education experience.

I Give My
Pledge As An American
To Save And Faithfully To
Defend From Waste The
Natural Resources of
My Country---Its Soil
And Minerals, Its
Forest, Waters,
And Wildlife. *

*Outdoor Life Magazine

GENERAL SUGGESTIONS FOR TEACHERS WITH GROUPS AT THE SCHOOL CAMP

1. A series of slides on school camp activities has been prepared. I would like the opportunity to show these to your students two to four weeks prior to their camping period. If you wish to invite parents to a presentation in the evening I would be happy to repeat it for them. I also have eleven slide presentations (listed in post camp activities) that I will be happy to present to your class during the winter if you desire them.

2. This material presented here was done in an effort to help you with your program and make the camp session easier for the classroom teacher. I do not wish to remove the flexibility of each group planning the content of their own program. I will be glad to help you develop your program if you desire any help. If you wish my help as a resource person during your camp session, please feel free to call upon me.

3. You may find it helpful to have me give the orientation to the students when they first arrive at camp while you spend some time with your counselors. Much of the success you have with counselors depends upon how well you inform them concerning what you expect from them. I would suggest that you try to arrange a meeting with your counselors prior to your trip to the school forest. They are still students so the more specific you are in your orientation with them the better they will function for you. You may wish to assign them a specific block of time

where they are responsible for the instruction or supervision of the class or of their cabin (such as Phy. Ed. activity, camp fire sing, hike to observe and record signs of animals, or instruction of their choice). Refer to the counselors manual for help with your orientation. Each counselor should have received a copy of this manual prior to their arrival at camp.

4. Counselors will be obtained from the Senior High Schools. Would you please evaluate the counselors upon completion of your camp session. This may be done with them directly or you may choose to use the counselor evaluation sheet in the director's manual. Evaluation sheets should then be sent to the assistant principal of the high school.

5. Camp is usually opened with a flag raising ceremony. Upon arrival at camp students usually take their gear to their cabin and set it upon a bunk and return to the flag raising ceremony. (They will have ample time to get settled later.) After flag raising would be a good time to begin the camp orientation.

6. Each group will be asked to read the weather instruments and record weather data each day while at camp. Details of this will be given during camp orientation.

7. Live traps for small animals and small birds are available for your use. Students should be informed that this is for observation only and any animals obtained in the trap are to be released. An animal cage is also available in the event that the group wishes to keep the animal until the end of their camp period.

8. Teachers may sleep in the office unless they prefer to sleep with their students.

9. A good motto for behavior while at camp: We will act while here in such a manner that those who follow us will not say, "I wish he had not come."

10. Be sure to have an extra program planned to use if a resource person is unable to be present (i.e. forest ranger may be fighting fire, someone forgets, etc.) It is suggested that teachers have three one hour lessons prepared in advance for use during emergencies that may occur.

11. A partial list of activities that may be conducted during the camp stay is included in this booklet. Fifth grades utilizing winter camp should not utilize areas of study that will be covered in sixth grade.

12. Any class which wishes to collect items should check with Mr. Curtis to determine the proper location for this activity.

13. Wisconsin State Law requires that any waterfront activity such as swimming, boating, canoeing must be directed by a person over 21 years of age who is an active American Red Cross Senior Life Saver or Water Safety Instructor.

14. FIRE PREVENTION:

a. A fire pump back pack must be present any time an open fire is built.

b. The forest protection is under the Mosinee Ranger Station.

c. The buildings are under the jurisdiction of the Mosinee Volunteer Fire Department.

d. Proper use of fire extinguishers (located near the door of each building) should be given. These are to be used in emergency only (several extinguishers have been expended by students for entertainment). Please caution students against this for it is expensive and more important, the extinguisher may be expended at a time it is really needed. Any group that wastes an extinguisher for entertainment will be required to pay for its refill.

15. Your suggestions for the improvement of a camp and the curriculum are always welcome. Time, budgets, and physical facilities sometimes impose limitations on excellent ideas but good programs aren't developed overnight or by a single individual. Your help in the constant effort toward improvement is needed and welcomed.

Hugh Curtis
Coordinator of Outdoor Education and
School Forests

ACTIVITIES LIST

This is a partial list of some of the activities that may be conducted at the school forest during a camp session. It is not expected that everyone will cover every item, for time, weather, and personnel will create limitations for each group. Resource people (outside of the school personnel) are finding it more and more difficult to obtain time to be at the school camp. It is suggested that these people be used only when the classroom teacher feels unqualified to present the subject. Be sure to have several alternate lessons or subjects that you will be able to substitute in event one of the resource personnel are unable to be present as scheduled.

These items are not necessarily presented in the order of their importance.

Gun Safety - (Actual shooting of the rifles must be supervised by an individual approved by the Outdoor Education Committee.)

Art Acitvities - general sketches
sketch of your cabin
sketch in detail of a section of a tree trunk
sketch in detail of one leaf, blade of grass, piece of bark, etc.
nature crafts

Astronomy

Forest Protection - (Mr. Overlien has requested to be present at each session but must be scheduled in the morning during the first part of the week.)

Scavenger hunt - (see suggested list of items to find)

Bird study

American Indians

Wisconsin Valley Improvement Corporation

Physical Education Activities - activities under direction of consultant
obstacle course
600 yard run-walk
(equipment in the P.E. storage building includes archery, horseshoe, badminton, volley ball, darts, golf putters, etc.)

The Outdoor Education handbook has many suggested games for indoors, outdoors, quiet, noisy, etc. Activities that cannot be done at school are encouraged.

Wisconsin Geology

Animals of the Forest

Soils

Tracks

Rock Hounding

Nature Crafts

First Aid

Camp Museum

Forest Tools

Forest Management

Nature Trial (tree and flower identification)

Stream Studies

Maping (make a map of all buildings in camp area)

Compass Study

Leaf Blueprints

Weather Studies

Forest Math

Music

Tree identification with a key

Wildlife Management

Stream improvement work

Tree pruning

Wisconsin River and its history

Water testing (for oxygen content, hardness, etc.)

Early logging day (explanation of photos inside the main lodge)

Make a detailed study of number of plants and animals in one small area

Insect collection - each student cut a one inch slice of red pine, sand it, print name, school, date, etc. on it and varnish, student keep for a souvenier (not time for this in 3 day camp)

Rainy day activity suggestions are listed separately.

There is also a list of suggested activities that the classroom teacher may wish to conduct with the students.

Mr. Curtis will be glad to assist you with instruction in any of the following areas:

orientation at camp - one hour
museum - one to two hours
forest tools - one hour
forest management - one hour
tree pruning - one hour
nature trail - identification - one to two hours
stream studies and water testing - two hours
compass - one hour
land measurement (pacing) - one hour
forest math - one hour
animals of the forest - one hour
develop map of the area - one to two hours (after land measurement)
Wisconsin River history - one hour
explanation of photos inside lodge - one hour
gun safety -
per class { classroom presentation - one hour; practice firing (no shooting) - one hour; firing at rifle range - one to two hours }

I will be glad to work with the teachers on any other type of activity they wish to develop if I may be of assistance.

Suggested evening activities

skits by cabin groups
coon hunt (look for silhouettes placed in forest prior to hike)
astronomy
camp sing
camp fire with stories, etc.
evening hike in forest
parents night
slides and film strips are available at camp if other activities are unavailable due to weather
a film on outdoor activities or wildlife just before going to bed may help quiet the students down - four Walt Disney films are provided for this purpose
a record on the Timber Wolf (kept in office) or bird calls

Suggested post camp activities

creative writing (camp newspaper with copies for all the students at camp)
letter writing
discussion of topics covered
evaluation of camp
Lamphrey ell and its effects on Wisconsin
study the life history of a particular bird or animal observed at camp
list all the new words learned while at camp
rainy day activities not used at camp

Slide presentation by Mr. Curtis on:

Marathon County from the Air
White Tailed Deer in the Winter
Birds and Animals of Wisconsin
Wisconsin Wildflowers
General Ecology - things to see
General Geology
Pollution in the Wausau Area
Beaver
John Muir Oil Spill
Forestry

(Try to relate the camp activities to classroom activities as much as possible)

THE FOLLOWING EQUIPMENT WILL BE AT THE SCHOOL FOREST

16 mm projector and screen
slide-film strip projector combination
record player
flag
radio
alarm clock
large flashlite for office

large telescope with tripod (if you are not familiar with the use of this instrument PLEASE follow the direction sheet located in the top file drawer)
large fan
first aid supplies
field glasses (8), telescopes (5), monoculars (4)
Instructions in the proper use of these instruments should be given to the entire groups before their use. I would suggest that one counselor be responsible for checking these in and out to insure the return of all equipment.
Field guides and miscellaneous texts
Multiple copies are available for student use on birds, trees, and flowers
one stereo microscope
one dozen biltmore sticks
past issues of "Ranger Rick" and "National Wildlife" magazines
magnigying glasses or hand lenses
two records of bird calls
one record on the Timber Wolf
thermometers
water testing kit
The following film strips are kept at the school forest:

Forest for the Future
Building the Soil
How Trees Grow
Enemies of the Forest
Forest Plant and Animal Relationships
Where Trees Grow
Protecting the Forest from Wild Fires
What is an Insect
Insects that live in Societies
Insects: Harmful and Useful
Life Cycles of Insects

The following 16mm films are at the school forest and should remain in the office.

Two Commedies (30 minutes)
Shooting Safety (25 minutes)
A Day at Teton Marsh (2 parts, 25 min. each)
Natures 1/2 Acre (28 min.)
The Deer Family (20 min.)

INVESTIGATION TO BE CONDUCTED BY THE STUDENTS

There are many activities that the classroom teacher may wish to pursue with the students while at the school forest which would require no additional help. A few activities are listed here just to give you some idea of the types of things that can be done.

1. Scientists investigating layers of soil and rock often uncover interesting fossil prints of leaves. To enable the children to see how a leaf can make a print have them carefully press a leaf, vein-side down, into firm mud. The leaf should be left in place until the mud has partly dried

Then the children can remove the leaf and observe the clear print that remains. This print, of course, is not a true fossil. In forming a fossil, the leaf material is gradually replaced by minerals during the course of thousands of years.

2. Have the children locate a tree stump and find answers to as many of the following questions as they can:

   a. What kind of tree was it? (study the bark)
   b. How was the tree cut? (saw, ax, wind)
   c. In what direction did the men face while cutting the tree?
   d. In what direction did the tree fall? (look for the notch)
   e. How old was the tree when it was cut?
   f. What is the diameter of the stump? circumference? radius?
   g. Is there any evidence that the tree was injured in any way while it was growing? (look for incomplete growth rings)
   h. Is the stump a home of any living things now?

3. Select two plots of equal size in two different areas. Make a survey to learn what kinds of plants are predominate in each plot. Do different kinds of plants grow in different kinds of places? Do two or more kinds of plants grow side by side in one area? Have some plants made adaptations so they can grow in the same area with other kinds of plants?

4. Take the children to the area where the gas pipeline was installed to discover the value of weeds as food for birds and as holders of soil, as well as, eventually, builders of soil.

5. Find an abandoned bird's nest and let the children dismantle it and list the various things that were used as building materials.

6. In discussion with the children, choose several types of habitats to be found at the forest (ground under trees or bushes, grassy area, under a stone, hedgerow, etc.) and suggest some types of animal life that may be found in each. Assign the groups to the various types of habitats to discover whether the suggestions made were correct. Observing, describing, note-taking, and sketching can be a part of this activity. A good one to be done with counselors.

7. Have the children divided into small groups to look for signs of animal life. Look for items such as nut husks, hair, feathers, fur, nests, holes in the ground, animal tracks, etc. Notes should be taken describing the area where each item was found. Compare findings upon return of the groups. Another good one for counselors.

8. The children can find many examples of temperature differences outdoors. One or more pairs of thermometers will be needed for this activity. Temperature differences can be looked for in the following areas of contrast: (a) sun - shade (b) wind - calm air (c) deep water - shallow water (d) south side of building - north side (e) surface soil - subsoil.
   Can the group suggest other places?

SUGGESTED ALTERNATE ACTIVITIES IN EVENT OF RAIN

This is not a complete list by any means, it is only a few suggestions that you may find helpful. In the event you do not need these activities you may wish to carry out some of them within your classroom upon your return to school.

1. Film strips (see list on page 13).

2. 16mm films from PTA film library or County Film Library.

3. Worksheets on nature (copies of these are included with this material, these are available in quantity at the school forest, located in the bottom two drawers of the file in the office. Please use this material only if needed.)

4. Map reading (use topographic maps of the area, hopefully these maps will be available at the school forest in the near future.)

5. Discuss new vocabulary words found at camp, their meaning and spelling. (a partial list of these is included on page 18).

6. Make a list of all the sounds heard at camp, have each cabin write a story using as many of these sounds as possible. Let students attempt to imitate the sounds if they wish to do so.

7. Discuss the use of a field guide book (multiple copies in the office for birds, flowers, and trees). Discuss how to use the book and why the plants and animals are grouped the way they are in the book. You may wish to point to a bird on the wall charts in the classroom and have the students identify it by the use of the field guides.

8. Use the records of the bird calls, practice a few times and then let the students try to identify the calls.

9. Obtain a common item from the forest (i.e. bark of a particular tree, a leaf, etc.) and ask the student to tell or write a description of this item just as if they were explaining this to a blind person. List the key words they use. A student may also describe this item to the class and see if they are able to guess what it is.

10. Make a list of words that could be used to describe things in the forest. Help them to reject outworn words and slang in favor of sharp tools of language that will express the exact shade of the meaning desired.

11. Ask the question, "What natural objects or resource located in this area might have commercial value?" or "Is there more than one use for this natural object or resource?" You may wish to discuss some of the following ideas:

Forests	Rivers	Recreation
pulp	water power	hiking
paper	travel	fishing
beauty	wildlife homes	snowmobiles
employment	irrigation	trail bikes
	industry	hunting
		observe wildlife (non-consumptive use)

12. Have the students act out verbs such as waddle, hop, leap, etc.

13. Make a list of all the types of seeds that humans eat as foods. This list may be of seeds immediately visible in the outdoors such as nuts and berries or may include such items as cereal grains, popcorn, tomatoes, etc.

14. Discuss with the children the picking of wild flowers. Some of these flowers take six or more years to reach maturity. Picking all its flowers robs a plant of its opportunity to produce seeds. Picking the leaves takes food factories away from the plant.

15. Discuss our state flower (violet) and the state bird (robin).

16. Have the children note and list the different kinds of care that animals give their young. How do most young mammals differ from the young of most birds in the length of time that they need care. Is there a relationship between the length of time and the life span? What mammal and bird young can live independently almost from birth?

17. Use the magnifying glasses and the stereo microscope to see what unexpected wonders can be revealed. A few examples would be a piece of a feather, a crystal of salt, grains of sand, the intricate structure of moss, a "flat" sheet of paper, the "gills" of a mushroom, etc.

18. Discussion of the hydrologic cycle and such questions as: Where will the rain go? "What makes it rain?" etc.

19. Gather a collection of miscellaneous items, let the students study them for one minute and then remove one while they are not looking. Have them identify the missing item. One could be added to get the same effect, (or moved to another position). It works best if you have ten or twelve items.

20. Have each child write the name of a plant or animal seen at the forest. Have the other students question him with questions that can be answered "yes" or "no" until they guess the item. These names can also be mixed up and pinned on a student's back. As the students move around they must each ask a friend the same type of questions until they guess their name.

21. There are many work sheets available in the office for use by your group if they are needed. (answer sheet in top file drawer, worksheets in bottom two drawers) A sample of these are included in the back of this booklet.

FREE TIME ACTIVITIES SUGGESTED FOR THE STUDENTS

1. Read a book
2. Observe wildlife
3. Museum (must be with a counselor)
4. Physical Education activities on the athletic field (with a counselor)
5. Obstacle course (with counselors)
6. Hike on nature trail (notify teacher where you are going)
7. Read magazines in lounge area
8. Skit practice
9. Resting (cabin area should be quiet)
10. Cut up fire wood
11. Travel the alternate compass course (after the first course has been completed by the class)
12. Conduct water testing experiments (after the first test has been completed by the class)
13. Bird watching (field glasses may be checked out)
14. Use of soil testing kit
15. Art porjects
16. Creative writing (write a detailed description of an event observed while at the school forest)

SCAVANGER HUNT SUGGESTIONS

(This should be done on area other than the nature trail)

1. Pine cone
2. Oak leaf
3. Tree bud
4. Bird nest
5. Feather
6. Pine cone eaten by red squirrel
7. Twig eaten by deer
8. Twig eaten by rabbit
9. Twig eaten by a mouse
10. Cedar twig
11. Balsam twig
12. Fern
13. Worm
14. Beetle
15. Maple leaf
16. Old gum wrapper
17. Yarn
18. Safety pin
19. Acorn cap
20. Evidence that an insect has been at work
21. Two kinds of seeds that travel by different methods
22. A rock containing at least two kinds of minerals
23. A green leaf (for winter only)

VOCABULARY THAT MAY BE INTRODUCED TO THE STUDENTS WHILE AT CAMP

pollution
precipitation
reservoir
runoff
surface water
hydrologic cycle
watershed
water table

contour farming
humus
lichen
plant cover
subsoil
topsoil
weathering

board foot
cord
forest floor
fruit
litter
ground cover
lumber
timber
log
pulpwood
saw log
veneer

aesthetic value
carrying capacity
ecology
environment
habitat
predator
refuge
species

igneous rock
sedimentary rock
metamorphic rock
fossil fuels

DINING ROOM PROCEDURE

Before the meal:

1. Table hoppers report to dining room thirty minutes before the meal.

2. Table hoppers check with the cook in the dining room to see what dishes are needed for the meal, the proper setting, and the number of places to be set for that meal.

3. All other campers stay out of the kitchen and dining room until invited in by the director.

During the meal:

1. All remain standing until grace has been sung. (song for grace could be learned at school before the camp period. A song that can be used appears on a wall in the camp dining hall.)

2. The table hoppers will serve all the food. The hoppers should be the only campers walking around during the meal.

3. The counselors may have assigned places in the dining hall. This insures an adult at each table to check on manners, food consumption, and conservation.

4. The table usually waits for the counselor or teacher to begin eating.

5. Hopper clears table of left-over food and brings dessert.

6. All remain at table until everyone is finished eating, announcements have been made, and the director has excused everyone.

After the meal:

1. Everyone leaves the dining hall, except those assigned to dish washing.

2. Members of the camp staff will provide the counselors and students with the procedure for cleaning the dining hall and washing dishes.

Suggestions:

1. Be sure to invite the resource people for the meal.

2. Encourage campers to try a small portion of each type of food served, but do not insist upon it.

3. Conversation between tables should not be tolerated, neither should passing or tossing of food.

4. Students are to remain out of the kitchen unless given specific instructions to work in that room.

5. Set a sample place-setting -- showing children how to set tables.

PUTTING TO BED

It is advisable for the counselor to have a meeting with campers just before going to bed, at which time they receive information and discuss certain aspects of camp living. While for health and safety reasons it is necessary to have some definite procedures, it is well to encourage the group to discuss and arrive at decisions concerning some phases of camp behavior.

1. Inform campers of the bedtime hours including time they begin getting ready for bed and time of lights out.

2. Keep campers informed of the amount of time remaining until lights out, while they are getting ready for bed. Suggest that all be in bed five mintues before lights out to chat with friends so that all can be quiet when the lights are turned off.

3. When campers are ready for bed, the counselor may wish to read or tell a story, play music, etc.

4. Remind campers to avoid dawdling while getting ready for bed

5. All campers should wear shoes or slippers in the sleeping quarters.

6. All campers should use the toilet and get a drink of water, if they wish, before lights out, so that there is no need to get up again until morning. This needs to be called to their attention several times before they go to bed.

7. Keeping quiet after lights out: Try to steer discussion toward the idea of individual responsibility, thoughtfulness for other people -- the idea that one might not be sleepy tonight but others are very tired, need for adequate rest after a day of strenuous activity, rather than setting up system of punitive measures which children are apt to suggest. Ask questions to stimulate group discussion.

Keeping quiet in the morning:

1. On the first morning, especially, campers may wake up very early. We expect that this will happen, but also expect that everyone will be quiet until time to get up. Even a whisper, in an otherwise quiet bunkhouse, can be very annoying.

2. What to do if you wake up early: Campers may suggest having a book beside bed to read.

3. Have it thoroughly understood that campers do not get dressed until the counselor in charge has given permission. Emphasize this the night before.

God's Out-of-Doors. The ceaseless march
Of sun and stars from night to dawn
Trace for our eyes the dome's high arch,
Show us what it is builded on,
Hymn, anthem and recessional
The shouting, storm in grandeur pours.
Mute worshippers, we hear His call
In this great house of Out-of-Doors.

...Author Unknown

ADDITIONAL SUGGESTIONS IN REGARD TO SLEEPING QUARTERS

1. Counselor should be aware of state of cleaniness of underclothes, socks, etc., and insist that campers use whatever clean clothing they have available.

2. Children, unless carefully supervised, may wear underwear under pajamas, and this is to be discouraged.

3. Children should not be allowed, under any condition, to get into bed with one another. At this age, it is a tendency among children and should be discouraged. Excuses, such as being cold, etc., should be met by furnishing more blankets.

4. Health habits such as brushing teeth and washing face and hands should be checked.

5. Women counselors should be especially alert to the personal hygiene problems of this age child and give individual attention as it is needed, recognizing that alertness is needed because of the reluctance of children of this age.

6. Never make any threats which you do not intend to carry out fully.

7. Because children are individuals it is not good to set up standard punitive measures for any type of behavior but instead to emphasize the positive side of behavior.

8. Children who become particular problems should be discussed with other members of the staff and some action decided upon, such as removing the child from sleeping quarters, etc.

9. The adults at camp are the only authorized persons to control and regulate the electric heaters.

CONSERVATION PLEDGE

The famous "Conservation Pledge" has been reworded. It now reads:

> "I give my pledge as an American to save and faithfully to defend from waste the natural resources of my country--its air, soil and minerals, its forests, waters and wildlife."

FURTHER INFORMATION FOR TEACHERS

1. The more quiet you have your campers at camp and on the trails the more profitable will be your camping experience.

2. Never allow a camper to leave the immediate camp area without specific permission from the teacher.

3. Make every effort to stay on schedule. The resource people have a busy schedule. Stress this point with the campers and counselors.

4. When on a hike, the adult in charge goes first.

5. The drinking water is obtained in the washrooms or the fountain on the side of the lodge. Each child has his own cup or glass which he uses to get a drink from the sinks in the washrooms. There will not need to be any water in the cabins.

6. There is poison ivy in some areas of the school forest. This poison ivy is being checked, but it's a long process to eradicate it completely. You may find it around the cabins. Teachers should be aware of any student who is highly susceptable to this.

7. The aduldts should be the only person to control the electric heaters. The campers should not touch them.

8. The campers leaving the camp on Friday, should close and hook all the shutters on all the windows and lock all the doors securely.

9. Staff members who smoke should do so in the office, and they should not smoke when actually working with children or at the table at mealtime. There will be no smoking in the children's sleeping quarters or on the nature trails.

10. No staff member who is in charge of a group should leave it without transferring responsibility to another staff member. The only possibility where this might not be true would be when there is a serious accident and you are the only adult with the group. In this case, you would have to use your own discretion.

11. In case of fire, your primary responsibility is always with the children. In the event of fire call the MOSINEE FIRE DEPARTMENT ... 693-3333.

12. Alcoholic beverages of any type are not to be served at the school forest.

13. Paper material will be burned by the custodian. Each group is requested to fill the wood box before they leave to insure dry wood for the next camp group. All non-burnable materials are to be put in the garbage cans.

14. All dishes, cooking equipment, art supplies, recreation materials, etc. may be used, but must be returned to their original location before leaving camp.

15. The director should be notified immediately of any health problem or injury.

16. Whenever you have a campfire be sure and have a back pack fire extinguisher with you. It is an easy matter to extinguish a small fire.

17. Games should be played on the athletic field, not the front lawn.

18. Cars should be parked in the parking area across the road from the lodge.

19. Campers are not allowed in the Furnace Room in the Washroom Building.

20. Cabin Assignments -- Boys: Maple, Balsam, Spruce, Hemlock } for groups composed of two classrooms
Girls: Pine, Oak, Fir, Birch }

Boys: Pine, Oak } for single classroom groups
Girls: Fir, Birch }

21. Before leaving camp:

a. Close all shutters and windows

b. Wash all dishes and utensils and return to proper place.

c. Sweep all floors.

d. Put all materials back in order.

e. Clean up the yard.

f. Fill the wood box.

g. Shut off all lights.

h. Lock all doors.

i. Return keys to Coordinator of Outdoor Education.

CUSTODIAL SERVICES AT CAMP

The following guide outlines the responsibilities of the camp custodian and the responsibilities of the camp director.

CUSTODIAN RESPONSIBILITIES

1. Clean rest rooms daily.
2. Sweep office and museum.
3. Empty garbage and waste paper daily.
4. Scrub and wax floors as needed.
5. Cut grass and brush in the lawn and on the trails.
6. General maintenance of grounds and facilities.
7. Assist director as needed.
8. Aid in making improvements in buildings.
9. Aid in forest management.
10. Have camp open when groups arrive.
11. Lock doors at camp when a group leaves.

CAMPER RESPONSIBILITIES

1. Sweep and clean cabins.
2. Sweep lodge and keep in order.
3. Keep trash picked up from grounds.
4. Keep woodbox full.
5. Cut your share of wood.
6. Lock all buildings and shutters if custodian is not there when leaving camp.

*Reminders

1. Invite custodian to eat at noon meals.
2. Keep cars parked in parking lot.
3. Limit ball games to the athletic field.

EVENING PROGRAMS

1. Evening programs as far as possible, should be planned by the children and carried out by them with counselors acting as resource people.

2. If a day has been a strenuous one, the evening program should be of a quiet nature, with singing, story telling, sitting around the fireplace or a campfire. Evening programs do not necessarily need to be entertainment. This period can be used to good advantage for such things as evaluation, crafts, and planning. It is also a good time for the finishing of activities which were not completely done, such as certain final reports, labeling of specimens collected, making of diagrams, working on camp log, etc.

3. If refreshments are contemplated, they should never be very extensive.

4. An evening program can be a combination of the above, depending on the needs of the group. The evening program should end in a quiet manner, to help in getting the children quieted down and ready for sleeping.

5. It is important that the evening program end promptly at the designated time, as the regular bedtime schedule is important for children taking part in an active outdoor program.

6. It is suggested that one of the Walt Disney films (there are four films which are to remain at the camp office) be shown as the final evening activity.

Afoot and light-hearted, I take to the
open road,
Healthy, free, the world before me,
The long brown path before me, leading
wherever I choose.
.... Walt Whitman

SUGGESTED CAMP REGULATIONS

1. Be cooperative at all times.
2. Use good manners at all times.
3. Follow the camp schedule.
4. Stay with the group.
5. Follow good safety practices.
6. Don't be a litterbug.
7. Don't play with fire.
8. Report all injuries to the camp director immediately.

WOODS ETIQUETTE

A good camper follows certain rules of conduct and courtesy toward others when he is in the woods, as well as at home or at school. Some very special considerations we don't ordinarily have include:

1. Holding branches and not letting them swing back in another's face. Give the person behind you time to catch the branch before letting go.

2. Stay behind your leader. Most of you will be in strange territory. You will have opportunities to explore, but wait for your counselor's permission.

3. There are children who may need help in some of the bad spots. Watch for this and check to see that no one is left behind. It is unkind to laugh at anyone who is afraid.

4. The trees, flowers, birds, and animals are in the woods for all to see and enjoy. Let's permit the next campers to have the same opportunity for enjoyment.

5. Don't be a litterbug. Whenever you see paper or trash left in the woods pick it up and carry it to camp for the careless person who left it there. If it is just a small piece, bury it in the leaves and it will rot and become part of the soil.

SUGGESTED LIST OF EQUIPMENT FOR CAMPERS

Equipment needed:

1. Sleeping bag or bed roll
2. Two towels
3. Wash cloth
4. Bar of soap in container or wax paper
5. Tooth paste
6. Comb and/or brush
7. Cup or glass (plastic preferred)
8. Three handkerchiefs
9. Change of underwear
10. Raincoat and cap
11. Boots for wet weather and hiking
12. Long-sleeved shirt or blouse
13. Jeans or slacks
14. Jacket
15. Comfortable shoes
16. Four pairs of socks
17. Pajamas (warm ones)
18. One story book for rest period
19. Small notebook or paper and pencil for taking notes

You may bring the following articles, if they are available:

1. Compass
2. Insect repellent
3. Camera
4. Slippers for inside cabin
5. Flashlight
6. Autograph books
7. Binoculars
8. Needle and thread
9. Safety pins
10. Bathrobe

Do not bring:

1. Jewelry
2. Cards
3. Food, candy, or gum
4. Knives
5. Money
6. Hatchets or guns
7. Toys of any sort
8. Transistor radio
9. Phonograph
10. Canteen

* *

On the following three pages are "suggested" forms that you may wish to use Parental permission for camp attendance must be obtained in writting.

NOTE: Teachers should have the parents name, address and phone number for each student. This list should be with you while at camp in event of an emergency.

WAUSAU DISTRICT PUBLIC SCHOOLS

OUTDOOR EDUCATION PROGRAM - ELEMENTARY GRADES

PRE-CAMPING LETTER AND QUESTIONNAIRE

Dear Parents,

School camping is an integral part of the elementary school curriculum of the Wausau District Public Schools.

The class in which your child is enrolled is planning a camping period at the Wausau District Public School Outdoor Education Center. The Outdoor Education Center is located twelve miles southwest of Wausau on the alternate route to Mosinee at the Wausau Senior High School Forest. The experiences and activities which will take place at camp will be carefully planned at school prior to the camp period. The subjects considered will deal with nature, science, conservation, recreation, art, music, and group living. Some time may be spent with the other classroom subjects, but in a manner different from the usual classroom procedure.

The total cost for the camp will be set as reasonable as possible. The only cost incurred by the camper will be the cost of food.

The counselors for the camp will be obtained from one of the nearby colleges. These people are majoring in elementary education and are interested in boys and girls and have worked with them.

We feel that you will be pleased to know that your child may have this experience. It is natural for you to desire as much information concerning the camp as possible. You will receive this information as soon as plans have been completed.

Please complete the questionnaire and return to school.

1. I approve of the camp project and will cooperate in carrying it out.

Yes_____ No_____

2. I intend to allow my child to go to school camp.

Yes_____ No_____

3. Has your child attended an overnight camp of any type before?

Yes_____ No_____

4. Comments - suggestions - questions

_____

_____

_____ (signature)

WAUSAU DISTRICT PUBLIC SCHOOLS

Outdoor Education Program - Elementary Grades

PARENT CONSENT BLANK

We hereby give our consent for our child to attend the Outdoor Education Camp at the Wausau District Public School Outdoor Education Center, on _____ to _____.

Camper's name: _____

Address: _____ Phone _____

_____
Signature of Parents

****

Please answer the following questions. The information will be kept confidential and is to be used by the camp staff in working with your child.

1. Has your child attended an overnight camp of any type before?--Yes___ No___

2. Does your child have nightmares?----------Yes___ No___

3. Is your child subject to sleepwalking?----------Yes___ No___

4. Is your child subject to any type of allergy?----------Yes___ No___

5. Is your child a bedwetter?----------Yes___ No___

6. Is child's general health condition such that he may participate in general athletic activities and camp routine?----------Yes___ No___

If answer to the above is "no" please state condition that prevents participation:

_____

7. Does your child need any special kind of diet?----------Yes___ No___

8. Any other information about your child that you think the camp staff should know:

_____

_____

_____

_____

_____

_____

WAUSAU DISTRICT PUBLIC SCHOOLS

Outdoor Education Program -- Elementary Grades

CAMPER'S EVALUATION OF SCHOOL CAMPING EXPERIENCE

1. Would you like to go back to school camp again?

   Yes_____ No_____

2. What unusual experience or exciting adventure did you have while at camp?

3. What new things did you learn about nature and the out-of-doors?

4. In what way did your camp experience help you understand some of your school work better?

5. While at camp did you learn to like anyone you had not liked before?

   Yes_____ No_____

6. How did you get along with the other boys and girls at camp?

   Better than at school _____

   The same as at school _____

   Not so well as at school _____

7. List the three activities you enjoyed most.

   a. _____

   b. _____

   c. _____

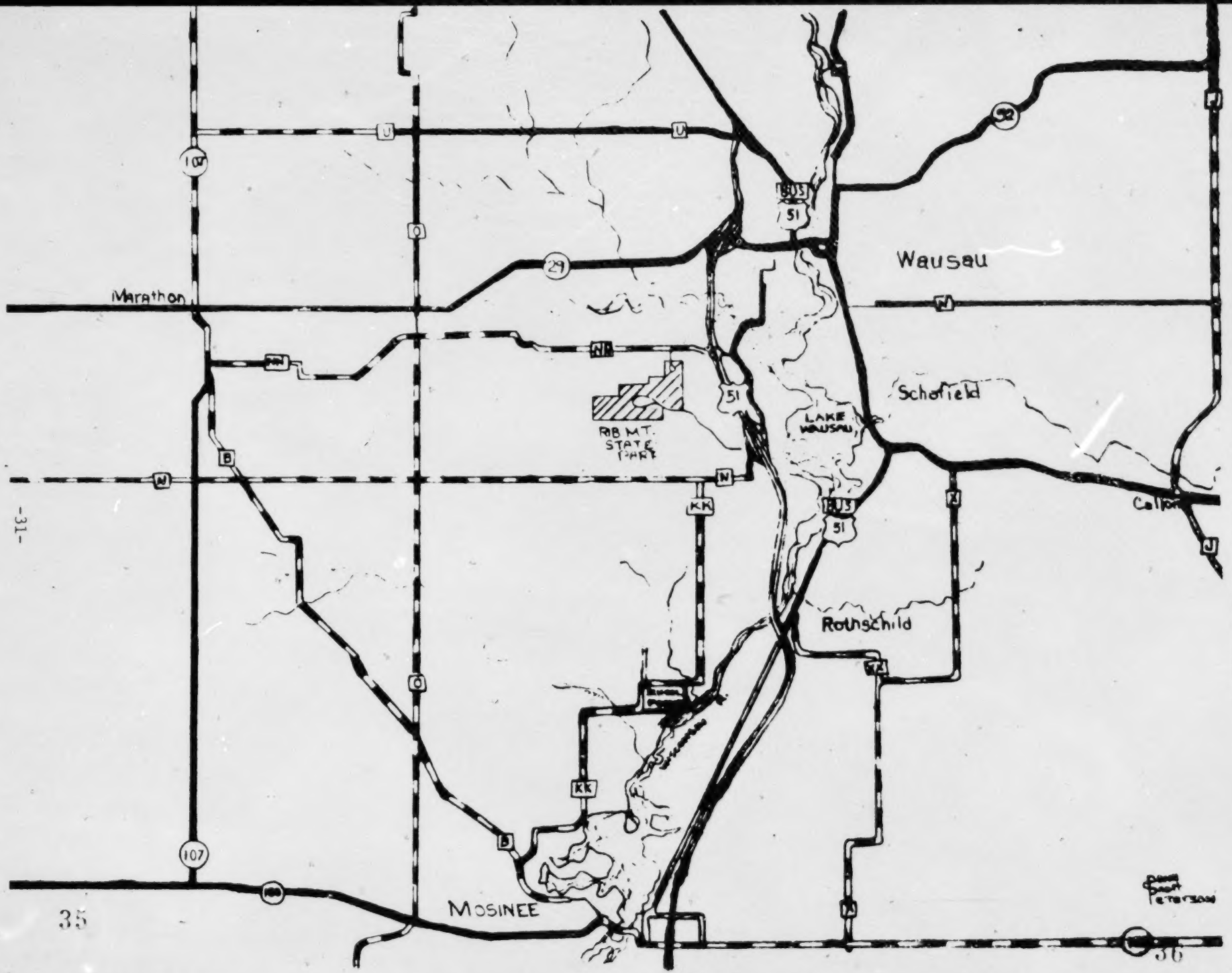
8. List three activities you liked the least.

   a. _____

   b. _____

   c. _____

9. On the back of this paper, write a short paragraph giving your reaction to school camp.


Wausau
Marathon
Schofield
LAKE WAUSAU
RIB MT. STATE PARK
Rothschild
MOSINEE
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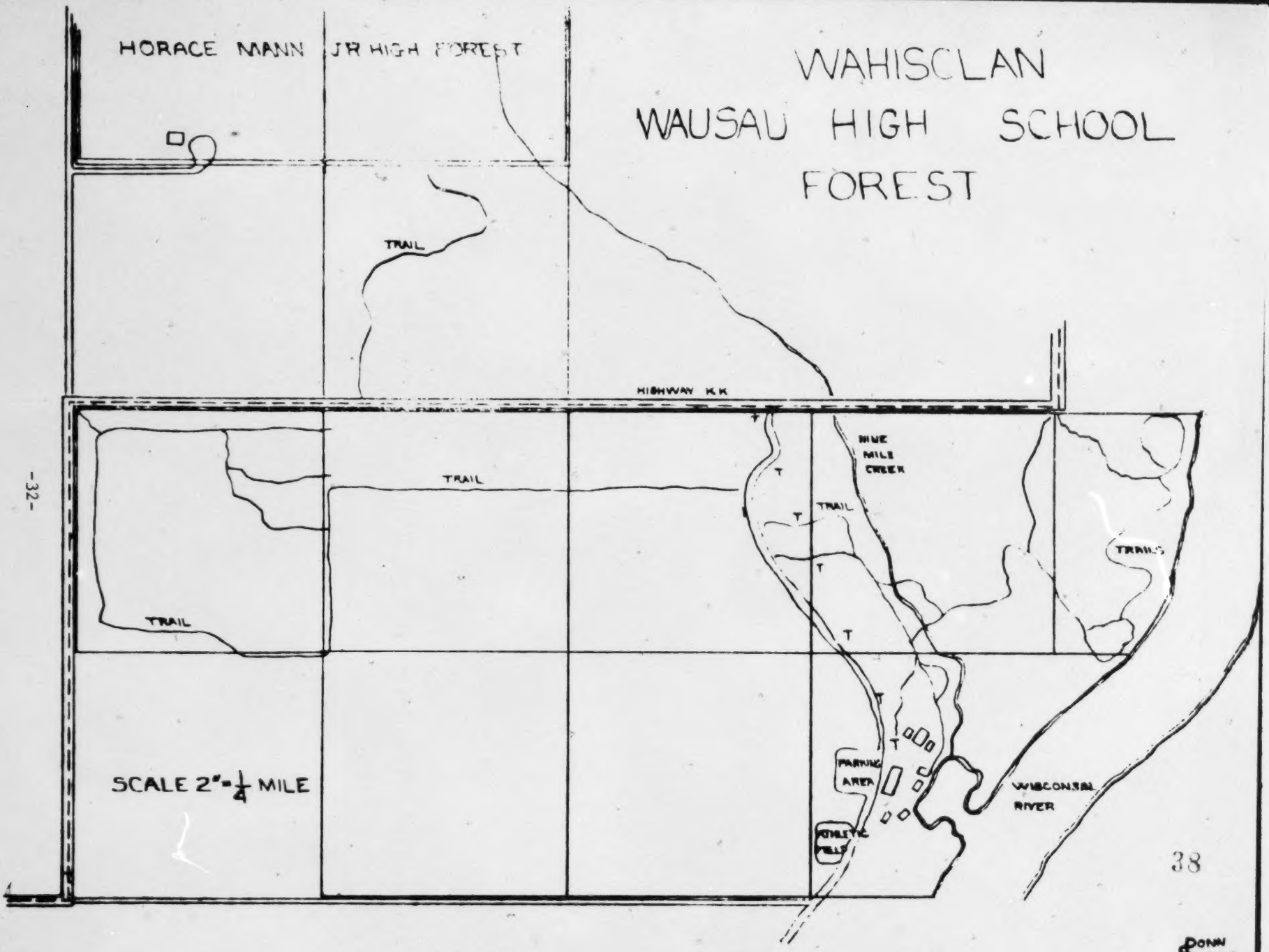
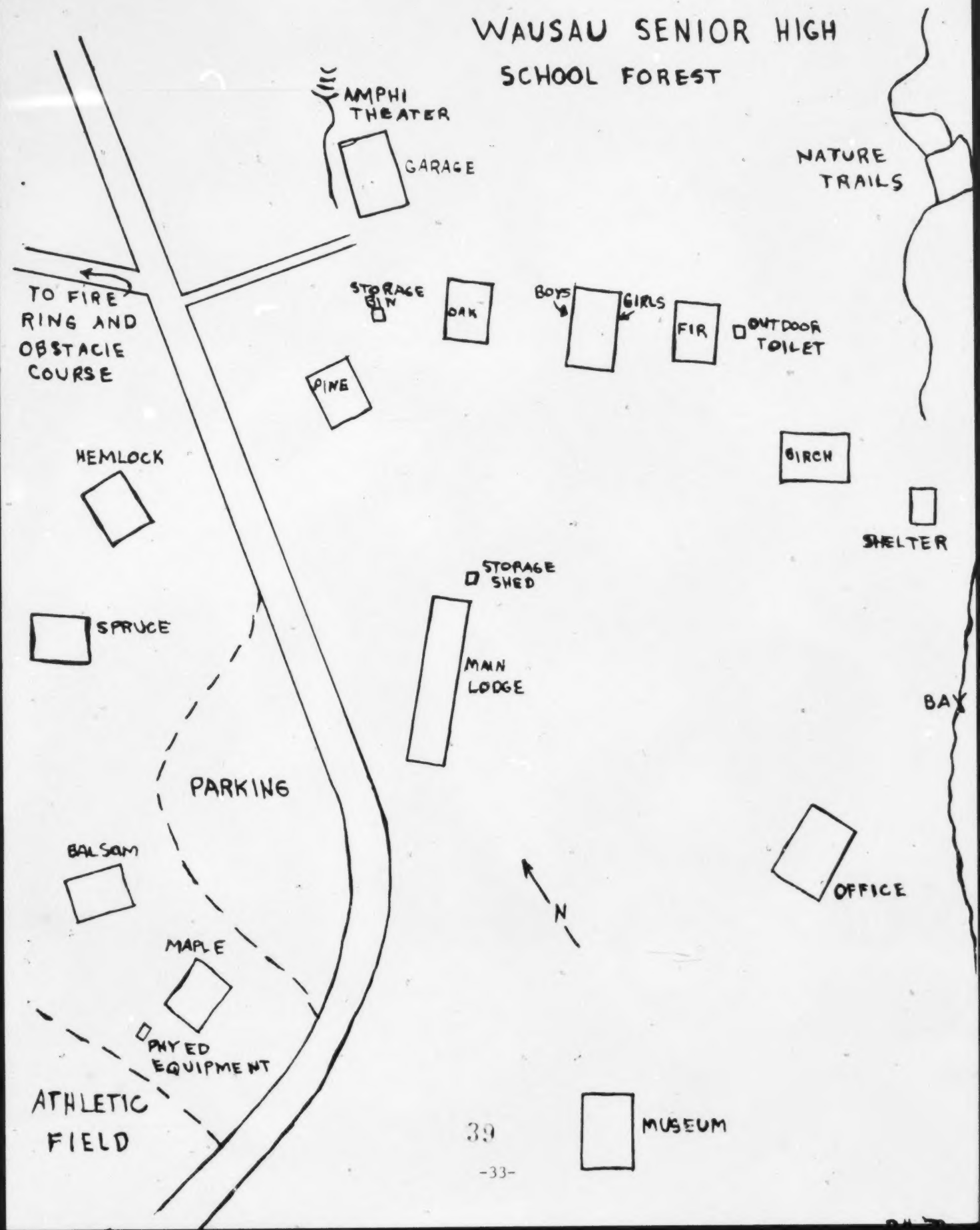

HORACE MANN JR HIGH FOREST
WAHISCLAN
WAUSAU HIGH SCHOOL
FOREST
TRAIL
HIGHWAY K.K
NINE MILE CREEK
TRAIL
TRAIL
TRAIL
TRAILS
PARKING AREA
WISCONSIN RIVER
ATHLETIC FIELD
SCALE 2"=1/4 MILE
34
38
DONN SCOTT PETERSON


WAUSAU SENIOR HIGH
SCHOOL FOREST
AMPHI THEATER
GARAGE
NATURE TRAILS
TO FIRE RING AND OBSTACIE COURSE
STORAGE BIN
OAK
BOYS
GIRLS
FIR
OUTDOOR TOILET
PINE
HEMLOCK
BIRCH
SHELTER
STORAGE SHED
SPRUCE
MAIN LODGE
BAY
PARKING
BALSAM
OFFICE
N
MAPLE
PHY ED EQUIPMENT
ATHLETIC FIELD
MUSEUM

BIRDS OF WISCONSIN
Field Check-List

Ducks

Mallard

Wood

Bobwhite

Pheasant

Partridge

Plovers

Killdear

Sandpipers

Woodcock

Doves

Mourning

Cuckoos

Yellow Billed

Owls

Screech

Whip-Poor Will

Nighthawk

Swift-Chimney

Hummingbird
Ruby Throated

Kingfisher

Lark - Horned

Jays - Blue

Woodpeckers

Flicker

Pileated

Red-headed

Yellow b. Sapsucker

Hairy

Downy

Flycatchers

Crested

Phoebe

Swallows

Tree

Bank

Barn

Cliff

Purple Martin

Raven

Crow

Chickadees

Titmouse

Tufted

Nuthatches

White-breasted

Red-breasted

Creeper, brown

Wrens

House

Mockingbird

Catbird

Thresher

Thrushes

Robin

Wood

Hermit

Kinglets

Waxwings - cedar

Starling

Warblers

Blackbirds

Bobolink

Meadowlark

Red-winged blackbird

Baltimore Oriole

Crackle

Cowbird

Scarlet Tanager

Cardinal

R-br. Grosbeak

Evening Grosbeak

Sparrows

House

Fox

A noun is a name of a person, place or thing. _____

Can you match the nouns to the right birds?

Gray - - - - bird

- - - - Bunting

- - - - Sparrow

- - - Sparrow

- - - - - Sparrow

- - - - - - - Grosbeak

- - - - - - - - Goldfinch

- - - - Fisher

- - - - - - - - - Oriole

- - - Bird

- - - - bird

- - - - Thrush

- - - BIRD

- - - - - WAXWING

- - - - - - Batman's partner

- - - - - - THRUSH

- - - - Swallow

- - - - - Swallow

- - - - SWALLOW

- - - - - WOODPECKER

- - - - - - LARK

- - - - - - - - DOVE

- - - - - HAWK

- - - - POOR-WILL

- - - - - WREN

House

Baltimore

Hermit

Cedar

Cat

barn

night

whip

King

Meadow

tree

Robin

Oven

Fox

Cow

Wood

King

American

Cliff

Hairy

Tree

snow

Evening

Morning

House

Match the right color with the familiar birds ! !

- - - - - - - BUNTING
- - - - - - BREASTED GROSBEAK
- - - - - - - COLORED JUNCO
- - - - - - - - - FINCH
- - - - - - - - - - - - (Red bird)
- - - POLL
- - - - - JAY
- - - - - - - - - - - - TANAGER
- - - - - - - - CRACKLE
- - - WING - - - - - - - BIRD
- - - - - BIRD (Brewer's)
- - - - - - THRASHER
- - - - BIRD
- - - - - - - BACKED THRUSH
- - - - - - - - - MARTIN
- - - - - - - - - - - BELLIED FLYCATCHER
- - - HEADED WOODPECKER
- - - - - - - SHAFTED FLICKER
GREAT - - - - OWL
- - - - - - BILLED CUCKOO
- - - - - THROATED SPARROW
AMERICAN - - - - FINCH
- - - - - BRESTED NUTHATCH
- - - - - - - WARBLER
- - - START

WHITE
WHITE
BLACK
RED
GOLD
YELLOW
GRAY
YELLOW
PURPLE
BROWN
YELLOW
RED
CARDINAL
SLATE
ROSE
BLUE
YELLOW
GRAY
INDIGO
PURPLE
RED
SCARLET
PURPLE
BLACK
BLUE
OLIVE
BLACK
YELLOW
RED
YELLOW

Outdoor Observation Check List

Name _____ Date _____

A. Animals and Birds (actually seen)

1.	4.	7.
2	5.	8.
3.	6.	9.

B. Animal Signs (tracks, nests, sounds, etc.)

1.	4.	7.
2.	5.	8.
3.	6.	9.

C. Plant Identification

1. Trees and shrubs

a.	d.	g.
b.	e.	h.
c.	f.	i.

2. Seed Makers

a. Flowers		b. Cones	
1.	4.	1.	4.
2.	5.	2.	5.
3.	6.	3.	6.

3. Plants That do not Make Seeds

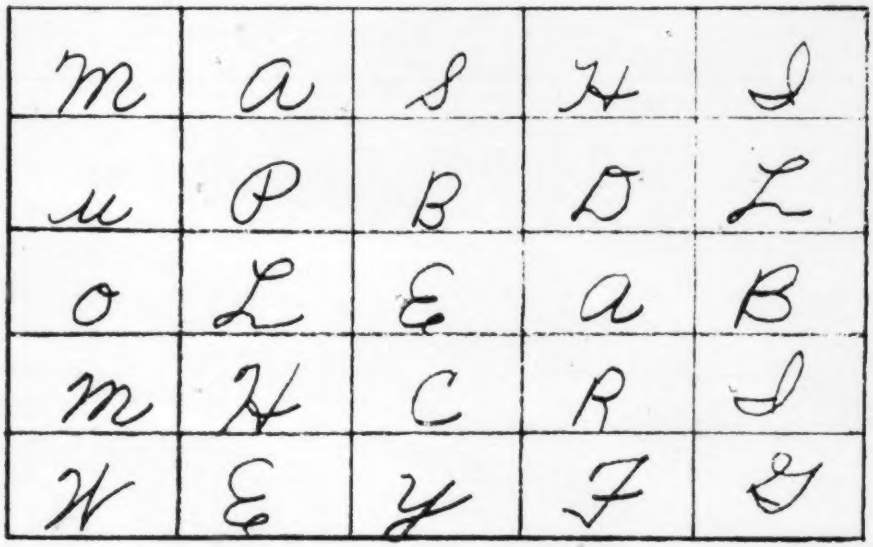
1.

2.

3.

Can you find the trees in this forest?

The word box (below) is an unusual plot filled with forest trees of fruit trees, and flowering shrubs. The forester has planted at least twenty kinds for you to locate. Start with any letter and spell out the name by moving in any direction, including diagonally, without skipping a square, but repeating letters when needed. An example starts with "A" and spells "Apple".



1.
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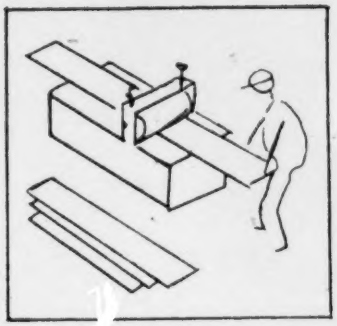
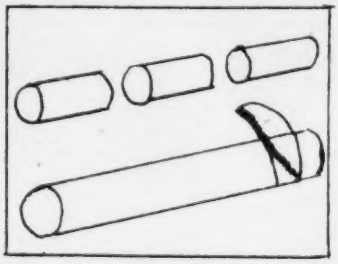
Problem No. 1



After a log is sawed into boards at a sawmill, the boards must be dried. They have rough surfaces. Before they are shipped to the lumber yard in the city, they must be smoothed off in a machine called a "planer." A rough board is 1 1/8 inches thick before it goes through a planer. When it comes out it is smooth and only 15/32 inch thick. How much of the wood was shaved off in planing?

Lumber should be dry before planing. If it is green the boards will come out looking fuzzy instead of bright, clean, and smooth. Green lumber warps and shrinks, too.



Problem No. 2

It takes six minutes to saw a log into three pieces for fireplace wood. How long does it take to saw the same log into four pieces, if each cut takes the same amount of time?

How a logger cuts a tree into logs is very important. He can make money or lose money, depending upon where he cuts. A good logger can cut fairly straight logs from a crooked tree if he knows where the cuts should be made. There is less waste in straight logs than in crooked logs.

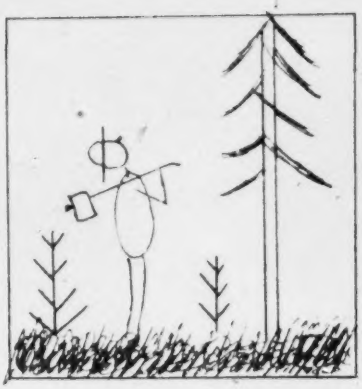
Problem No. 3

On Mr. Arthur's farm, one pasture was so steep and closely grazed that the soil washed away with every rain, and settled on some good level fields below. The county agent advised Mr. Arthur to keep cows out of it and to plant trees there to hold the soil in place. Mr. Arthur planted 6,000 trees. (a) If 1,000 trees were planted on each acre, how many acres are there in the field? (b) One-third of the trees are pine. There are 3/8 as many spruce as pine, and the remainder are tamarack. How many pine trees are there? How many spruce? How many tamaracks?

Trees help hold the soil in place and are a profitable crop for land which is too poor and steep for good pasture.

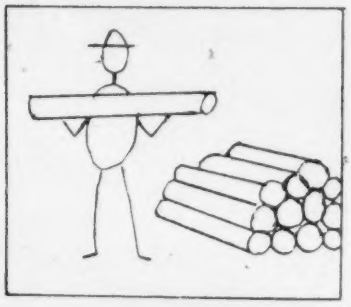
Problem No. 4

Lumber is cut from logs in sawmills. This makes jobs for men. Foresters cut only the trees which are ready for harvest. Healthy young trees are left in the woods to grow and some big trees are left to seed in the cut-over areas. If no good trees are left to help make another crop, the mills will eventually run out of logs and shut down. In 1943, a whole southern town was sold to a wrecking company after 100,000 acres of virgin longleaf pine had been clear cut. It took 25 years to do this. How many acres of timber were stripped each year?



In the South there are 3 acres of timberland for every 2 acres of agricultural land.

Problem No. 5

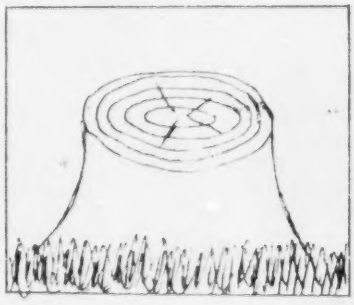


Jerry walked beyond a log cutter in the woods. He saw another man cutting poles with which to build a fence. If one pole weighed 40 pounds, how many poles were there in a load weighing 880 pounds?

To speed up the growth of trees in crowded woods, foresters "thin" the timber. This means that poor and crowded trees are cut out to make room for healthy, fast-growing trees which the forester has picked to be his "crop" trees. These thinnings are often sold as pulpwood, posts, mine props, etc.

Problem No. 6

The sixth grade science club went to the forest on a stump hunt. They were studying how a tree grows. They found a freshly cut stump on which they could count the annual growth rings. The stump was 1½ feet in diameter and had 32 growth rings. How many inches in diameter had the tree grown per year? (For each year of growth a tree puts on one annual ring.)

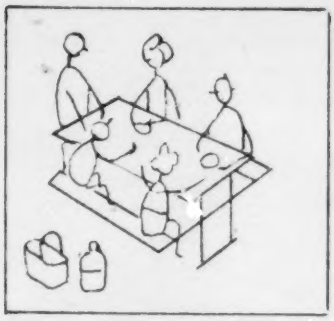


Petrified wood is wood turned to stone. The structure is so well preserved that the growth rings of the original tree are clearly visible. Petrified wood that is 40,000,000 years old is found in various parts of the United States, the most famous being the Petrified Forest National Monument of Arizona.

Problem No. 7

Diane's father is a forest ranger who just reached the Wallowa Creek forest fire. He traveled ¼ hour by car to Enterprise; then he went by plane for ½ hour to a landing field in the forest; and from there he rode horseback for 40 minutes before he reached the fire. How long did it take him to get to the fire after it was reported to him?

Fire fighters must get to a forest fire quickly. If they do not, the fire may get so big that a lot of valuable forest will be destroyed.



Problem No. 8

Robert went with his father and mother to the Winona State Forest to attend the Grange picnic. While they were eating, his mother wondered how many people were there. Robert, who had finished eating, counted 53 picnic tables, all made of heavy planks and stained a rich brown color. If 5 people were sitting at each table, how many attended the picnic?

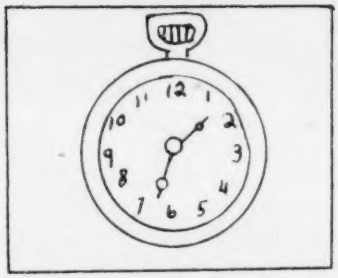
Millions of families go on picnics in the woods every year. That is another way in which many of us use the forests.

Problem No. 9

A family built a cabin in a canyon in the hills near Los Angeles. It cost $4,000. In 1934 a great forest fire burned off all the trees and shrubs in those hills. Then came a heavy rain. With no plants on the hillside to help hold the water, there was a great flood and a landslide which destroyed the cabin and washed out the canyon. (a) If the family paid $40 a month, how many months did it take to pay for the new cabin they built for $5,040 on leased land in a well-protected canyon in the Angeles National Forest? (b) Years?

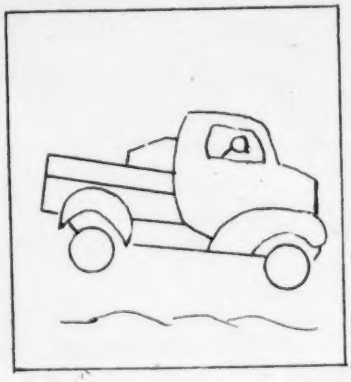
Forest fires cause more damage than just the loss of timber or forage. In hilly or mountain country floods often follow fires.

Problem No. 10



The Wallowa Creek forest fire was discovered at 1:32 p.m. and was put out the next day at 11:10 a.m. How long was it after the fire was first seen before it was put out?

In dry, windy weather it may take days to put out a forest fire which somebody started by throwing away a lighted cigarette, or by forgetting to put out his campfire.



Problem No. 11

June, a forest ranger's daughter, was studying the cost of driving a pick-up truck. Her teacher asked her how much it cost her father and two fire wardens, each from a different place, to drive their pick-ups to a forest fire and back. June found that it costs 7½ cents per mile to operate a pick-up. Her father had to go 14 miles to the fire, one warden had to go 6 miles, and the other warden 12 miles. How much did it cost for the three men to get to the fire and back to their stations?

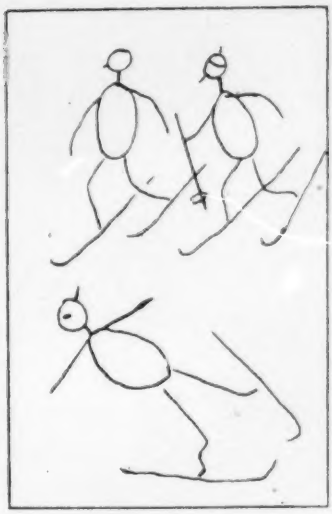
It costs lots of money to put out forest fires. Most of that money would be saved if people would be careful and prevent forest fires.

Problem No. 12

Out West forest fires sometimes get out of the timber and burn the grass and sagebrush on range or grazing lands. Jacqueline was given this problem: "A forest fire burned 3,000 acres. One-fourth of it was sagebrush, one-third was pine, and the rest was range grass. (a) How many acres of each kind burned? (b) What fraction was range grass?"

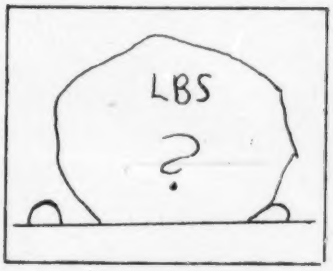
The cost of putting out just one forest fire may be enough money to reforest thousands of acres of land.

Problem No. 13



Skiing is a popular winter sport on many State and national forests. On the Arapaho National Forest in Colorado, a ski patrol helps injured skiers. One winter a skier was hurt on Seven Mile Ski Trail (so called because it is 7 miles long). The patrol found him 3 miles down the trail. Two members of the patrol put him on a toboggan and took him carefully down the trail to an ambulance. They had traveled at 6 miles per hour from the lodge (at the upper end of the trail) to the injured man. But they slowed down to 3 miles per hour from there to the road. (a) How long did it take them to reach the man? (b) How long did it take to travel on down to the ambulance after the injured man was placed on the toboggan?

With thousands enjoying winter sports in the forests, a ranger must be prepared for all emergencies.

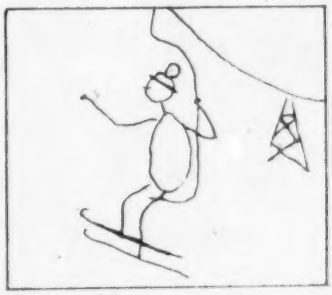


Problem No. 14

In Utah in 1930 a flood started from heavy rains on range land where cattle had eaten all the grass right down to the bare soil. The raging waters moved a huge boulder which weighed more than 200 tons. About how many pounds did the boulder weigh?

The destructive force of floods is enormous. A good grass cover on these lands would have prevented this flood.

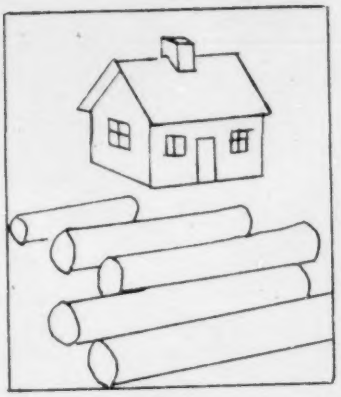
Problem No. 15



Of the 18 national forests in California, 11 have winter sports areas. One year 318,516 people enjoyed winter sports on those forests. What was the average number of people who went to each forest?

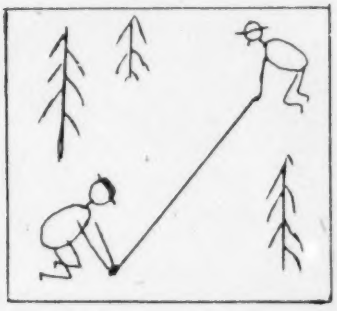
On many State and national forests there are shelters, lodges, and first-aid stations for the use of people who enjoy winter sports.

Problem No. 16



The town in which Carole lives was built from the surrounding forests. Each acre contained about 400 large and small trees. Since only the "ripe" or "mature" trees were cut for lumber, each acre supplied about 100 trees. There were 1,000 homes in her town. (a) If it took 100 trees to build each house, how many trees did it take to build all the houses in town? (b) From how many acres did the timber come?

For centuries civilized man has been born and buried in enclosures of wood.

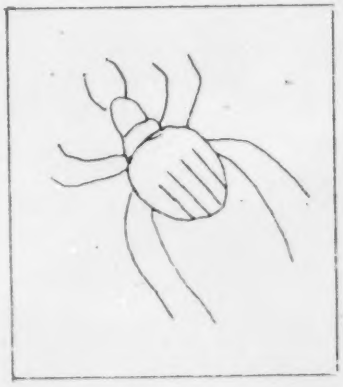


Problem No. 17

Nick went out on a Saturday to help his father survey some forest land. They were measuring the land with a long, steel tape. The forest was a four-sided figure. They measured 1.163 miles on one side, 0.731 mile on another, 1.165 miles on the third, and 0.728 mile on the last. How many miles was it around the forest?

In the United States, some counties, towns, villages, cities, schools, churches, and hospitals own community forests. Many of these were established to help protect watersheds which supply water for domestic use.

Problem No. 18

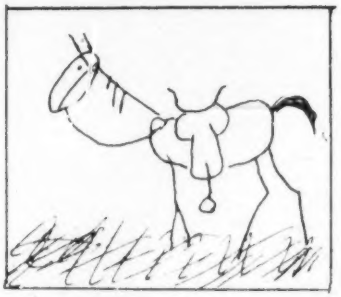


Forest soils are alive with tiny soil animals such as moss mites. Studies in the Appalachian Mountain country show that as many as 9.936 may be found in one square foot of forest litter. How many of these soil animals would there be per square inch?

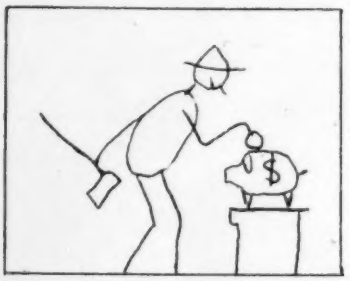
Earthworms help keep the soil porous so that it can take in more water.

Problem No. 19

Jim, a forest ranger, owns a horse and saddle. Together they cost $140 when he bought them before the war. The saddle cost 3/4 of the whole amount. How much did each cost?



Most forest rangers are college graduates. The first forestry school in the United States was started in 1898 on the Biltmore Estate in North Carolina. Today there are about 30 forestry schools.



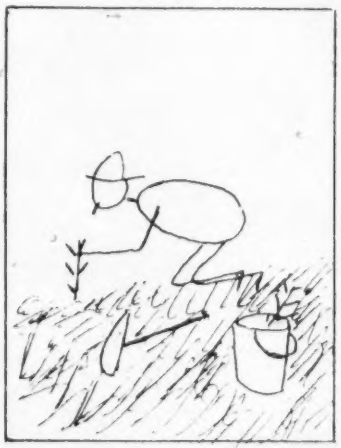
Problem No. 20

A farmer in Maine built a new fence. He cut 250 8-foot cedar fence posts from his own wood lot. The same fence posts, if bought at a local lumber yard, would have cost him 75 cents each. How much did he save in the cost of fence posts by cutting his own?

The posts were cut in a crowded stand of young cedar trees. By cutting out the trees for posts, the remaining trees have more room and will grow faster.

Problem No. 21

Near Carole's home a forest fire burned off the trees. The forest ranger hired men to plant young trees on the burned land. One man, working 8 hours a day, plants 65 trees per hour. (a) How many trees can one man plant in a day? (b) If the forest fire burned over 468 acres and 1,000 trees were planted on each acre, how many trees were planted? (c) How many man-days would it take to plant the entire area? (One man-day is equal to the number of trees 1 man can plant in 8 hours.)



We have 75,000,000 acres of idle forest land. Much of this needs to be planted if we are to make it grow good trees again.

FLOWERS

SCHOOL CAMP

_____
NAME

PAPER AND PENCIL NATURE GAMES

1. Posey Posers WHICH FLOWER....

   a. does the broker love?_____

   b. do chickens like?_____

   c. can be found in a monastery?_____

   d. names a bird and riding equipment?_____

   e. suggests flour making?_____

   f. reminds you of Cinderella?_____

   g. did Mary call her beau?_____

   h. is a time of day?_____

   i. is the name of a celestial body?_____

   j. bears the name of a noted ship?_____

   k. is a musical instrument?_____

   l. is part of the face?_____

+ + + +

CAN YOU FIND THE BIRD?

1. We found the card in Alice's pocket.
2. The lamb fell into the gully.
3. They placed her on the horse.
4. He walked along with rushing steps.
5. How rent has gone up in Loyal Arkansas.
6. The dog was seen ducking under the fence.
7. The cow likes to jump the moon.
8. In November many men go north to kill deer.
9. Is old Rob in the corn field?
10. He set out to rob in spite of his friend's warning.
11. The house lights flickered on and off.
12. Phoebe went to dinner.
13. You may commence daringly using the new ax to fix the swing.
14. The American Reds started winning the game.
15. In the morning the children did over their exercises.
16. Now rentals are very high.
17. If our meadow larkspur can be found.

ARITHMETIC

SCHOOL CAMP

_____
NAME

Length of my foot _____

My height _____

Length of my stride _____

My eye height _____

Height of my up-reach _____

Length of my index finger _____

Length from fingertip to elbow _____

Width of my thumb _____

Width of my hand span _____

The above measurements are good to remember as they come in handy when estimating widths or lengths.

+ + + +

GENERAL

SCHOOL CAMP

_____
NAME

NATURE QUIZ

1. What common plant can shoot its seed 40 feet in any direction_____
2. What native wild animals is the most intelligent?_____
3. What insect can be photographed without the use of a camera?_____
_____ It can produce a picture of itself when placed in the direct contact with a photographic plate.
4. What animal can walk backward faster than it can go forward?_____
5. What common conifer loses its needles every fall?_____
6. What wild flower likes to eat a piece of meat for breakfast?_____
7. What common insect migrates to South America?_____
8. What common bird makes a trap of balsam in front of its nest to trap intruders?_____
9. What common animal waves a flag at you when it runs?_____
10. What tree sheds its seeds in January?_____
11. Where does the goldfinch go in winter?_____
12. What common shrub blossoms in late October?_____
13. What kind of nest does the cowbird make?_____
14. Is the Destroying Angel a flower, bird, animal or mushroom?_____
15. What two European birds have become great pests in this country?_____
_____
16. Name three flowers protected by law in Wisconsin._____
_____
17. Name a vegetable, a tree, and an insect containing the word horse _____
_____

18. What are two insects domesticated by man?_____

19. What common bird beats a drum?_____

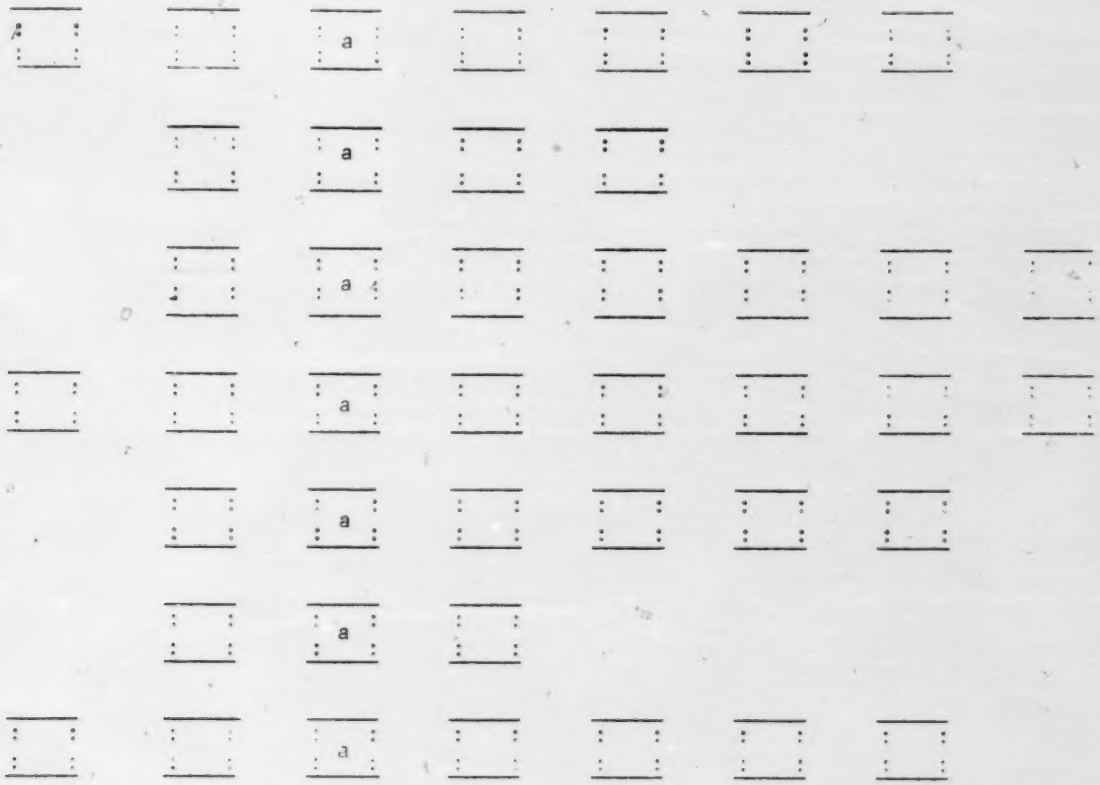
20. What bird prefers flowers to worms?_____

+ + + +

SCHOOL CAMP

NAME _____

BIRD CROSSWORD PUZZLE



FILL INS

Each four-letter word below is part of a bird.

1. W___ ___G
2. B___ ___L
3. F___ ___T
4. H___ ___D

5. T___ ___L

6. B___ ___K

7. B___ ___K

8. S___ ___E

BIRD SCRAMBLE

1. BORIN _____

2. BRELWAR _____

3. PRROWSA _____

4. BUEBDRLI _____

5. RUPELP TARMIN _____ _____

6. CKFLERI _____

7. IRYAH OODWC''EPRE _____ _____

8. DOGLINFHC _____

9. DARCINLA _____

10. RIOLEO _____

SCHOOL CAMP

_____
NAME

ANIMAL PUZZLE

1. FAUBLFO _____
2. RGOPONRHN PEELTOAN _____ _____
3. GORCUA _____
4. LILATGAOR _____
5. MLACE _____

Animal Attributes (FILL IN THE BLANKS)

a. Dumb as an _____
b. Bold as a _____
c. Sly as a _____
d. Swift as an _____
e. Meek as a _____
f. Busy as a _____
g. Scared as a _____
h. Slow as a _____
i. Quiet as a _____
j. Free as a _____
k. Weak as a _____

ANIMAL SCRAMBLE

1. GRETI _____
2. OLNI _____
3. LOUFAFB _____
4. KSTRO _____
5. CDKU _____
6. NSWA _____
7. AVBERE _____
8. NKMI _____
9. LWASEE _____
10. OFX _____

TREES

SCHOOL CAMP

_____
NAME

IREE PUZZLE

TREE NAMES WILL ANSWER THESE QUESTIONS:

1. What tree remains after a fire?_____
2. What trees are part of your face?_____
3. What tree is a salad vegetable?_____
4. What tree has butter for your bread?_____
5. What tree has a hand?_____
6. What tree wears a mammal's coat?_____
7. What tree follows the shore?_____
8. What tree can see like a deer?_____
9. What tree has a dog in it?_____
10. What tree has a cat in it?_____

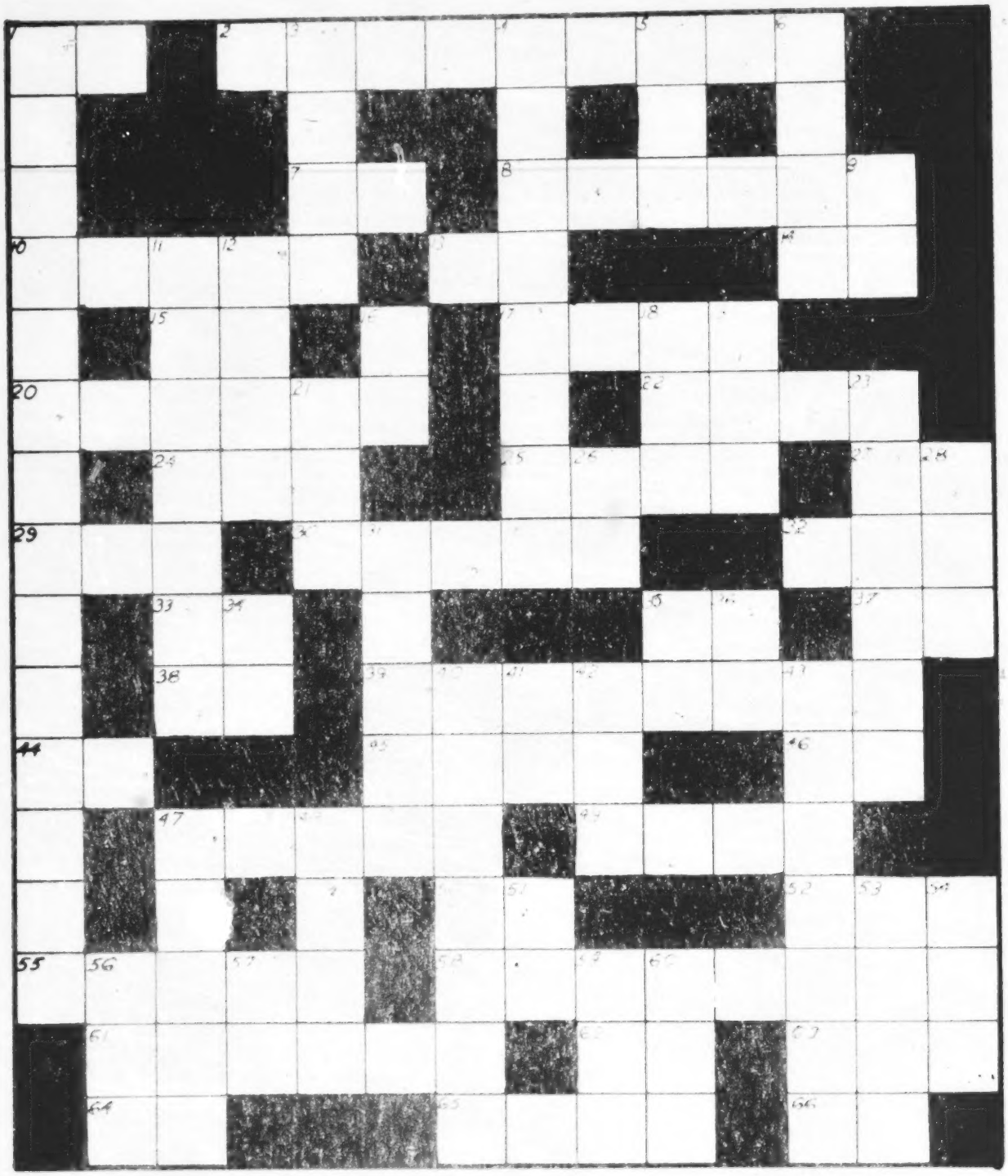
CAN YOU FIND THE TREES IN THIS FOREST?

The word box (below) is an unusual plot filled with forest trees, fruit trees, and flowering shrubs. The forester has planted at least twenty kinds for you to locate. Start with any letter and spell out the name by moving in any direction, including diagonally, without skipping a square, but repeating letters when needed. An example starts with "A" and spells "Apple".

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____

M	A	S	H	I
U	P	B	D	L
O	L	E	A	B
M	H	C	R	I
W	E	Y	F	G

CONSERVATION CROSSWORD PUZZLE



THEL[illegible] CONSERVATION CAMP
[illegible] WISCONSIN

TREES FOR TOMORROW CAMP
Eagle River, Wisconsin

CONSERVATION ORIENTATION CROSSWORDS

Across

1. Abbreviation "that is"
2. Term for resources that can be restored
7. Abbreviation - bachelor of arts
8. Plant parts that are an aid in one of the greatest processes in transfer of solar energy and materials into forms very important to man
10. Soils may ____ by action of wind, water, and other geological processes with much loss in value to mankind
13. After birth of Christ
14. Abbreviation for northeast
15. Abbreviation "In regard to"
17. That resource which the laws of conservation dictate "that man shall live with as well as live on"
20. In the winter, deer are sometimes forced to browse on sub-standard foods that are hard to_____and result in malnutrition
22. A terrace on sloping land is as an _____trough on a roof
24. Plural and second person singular, present indicative, of verb "be"
25. What element of deer habitat may become scarce and critical in winter in northern areas?
27. Abbreviation "State of Virginia"
29. Instrument used in separating heavy precious minerals from soil or rock materials by use of water and agitation
30. One of the renewable natural resources that is renewed by the process known as the hydrologic cycle
32. A color visible in tree leaves in fall
33. Singular present indicative of verb "be"
35. Alternative
37. Negation
38. Prefix meaning "with" or "joint"
39. To establish forest trees on land never before forested. To plant trees on land formerly forested is to "reforest"
44. To act
45. A U.S. Forest Service Definition of conservation is "the greatest _____to the greatest number in the long run
46. We (objective case)
47. One group of industries sponsoring Trees for Tomorrow
49. Female deer (plural)
50. One-half the width of an em
52. A resulting action of sun rays upon human epidermal tissue
55. A condition of water which lowers its quality for drinking
58. No_____natural resource can be considered separate and apart from other resources
61. To feel indignation at
62. Spanish "the"
63. Suffix meaning "salt" of an element in chemistry
64. Abbreviation "Eagle River"
65. A mixture of mineral and organic matter at the earth's surface that is one of the essentials for sustaining plant life
66. Abbreviation "Nova Scotia"

Down

1. All renewable natural resources are _____and inter-related and, therefore, the management or treatment of one has effects upon the others
3. A river flowing from central Germany into the North Sea
4. A grouping of birds, animals, furbearers, fish, etc. considered as one of the main groups of renewable natural resources
5. Cry or call of the sheep
6. Equal
9. Abbreviation for element selenium
11. Material which is important as a part of the mixture as the earth's surface known as soil
12. An important big game animal in Wisconsin
16. Latin "and"
18. Prefix meaning "new" or "recent"
19. Father
21. Fasten with stitches
23. Happening. Many_____have had a tremendous effect upon our natural resources. The philosophy of "short rich and long poor" in logging our forest stands may be said to have been one of the _____in the history of the forest resource
26. Word used to express a choice
28. Much_____about nothing
31. Wise saying that has been much used
34. Accordingly
35. Either
36. Prefix meaning once more
40. A fairly large area of land covered with trees. The _____ represents one of the important resources considered in natural resource management or conservation
41. The first two letters in the three-letter abbreviation indicating price of an item loaded on the carrier at point of origination but not delivered at expense of supplier
42. Queer
43. Wise resource management under the laws of good conservation dictates that a resource be managed in order to_____its yield for the benefit of mankind
47. Companies from the _____ industry in Wisconsin also sponsor Trees for Tomorrow, Inc.
48. The Wisconsin River is termed the "hardest working river in the Nation", not because it is extremely_____, extremely deep, or the longest river, but because the water is controlled and used over and over again through a series of reservoirs and power dams
51. Does "conservation" mean "hoarding"?
53. Paper making is one of the _____that was originated by the Chinese
54. Surname of an American humorist
56. Before
57. Exists
59. Hawaiian floral arrangement
60. We can_____afford not to practice wise resource management with an expanding population and a generally declining storehouse of resources

The names of 50 native Wisconsin trees can be found among these letters. The name of the tree sometimes is read forward, at other times backward, up, down, or diagonally. One letter can be used for more than one tree. Draw a circle around the name of the tree when you find it.

E N I P E T I H W O L L I W K C A L B S

L B A I C R S U H B F Y B L A C K A S H

P O E N E A N K I D O O W N O T T O C A

A G L W N H M J T K A O D E R S H P Q G

M B P E N Y F U E O H S A E U L B R U B

D H A M T U B A S S W O O D B I A F O A

E S M L E Y R E P P I L S T U N L A W R

R A R I S T E F R B Y R R E B K C A H K

W E E R O A Y H U R P A P E R B I R C H

Y T V E M L M T C I Y S D O O W N O R I

R I L D R K T F E H L F E X T S R N I C

O H I P F E H W I P H C E E B E U L B K

K W S I R N A H E R I L H S A D E R W O

C Q E N U S B N T F D N A M L E K C O R

I S U E M N I M L E N A C I R E M A L Y

H T R A F P L U R S B G E H W H U X L R

T K A H K U S R E L D E R B E R R Y E A

U R H C H I N K A P I N O A K R L O Y D

N O A M F W N C J B D O M L P U R C J E

R J W H O B K G R E E N A S H I A Y U C

E S T B O O F J A T S U C O L R R K N E

T A H R A P L U M S W E Y W A N E B I T

T J O K S K A O N I P R S M V R D G P I

I U R R A D E C D E R E A K C O L M E H

B A N E L P A M N I A T N U O M A H R W

Alder
American Elm
Balsam Fir
Basswood
Bitternut Hickory
Black Ash
Black Oak
Black Willow
Blue Ash
Bluebeech
Box Elder
Bur Oak
Butternut
Chinkapin Oak
Cottonwood
Elderberry
Green Ash
Hackberry
Hawthorn
Hemlock
Ironwood
Jack Pine
Juniper
Locust
Mountain Maple
Nannyberry
Paper Birch
Pin Cherry
Pin Oak
Plum
Quaking Aspen
Red Ash
Red Cedar
Red Maple
Red Oak
Red Pine
Rock Elm
Shagbark Hickory
Silver Maple
Slippery Elm
Sumac
Sycamore
Tamarac
Walnut
White Ash
White Cedar
White Pine
White Spruce
Yellow Birch
Yew

TREES FOR TOMORROW CONSERVATION CAMP

SEEK-A-WISCONSIN-BIRD-SCRAMBLE

The names of 50 Wisconsin birds can be found among these letters. The name of the bird sometimes is read forward, at other times backward, up, down, or diagonally. One letter can be used for more than one bird. Draw a circle around the name of the bird when you find it.

E T R K O E L O I R O E R O M I T L A B

T O E R I V D E Y E D E R A S M W O R A

I F L A B O E Y A J E U L B V O B O I L

H A G L L D G N I L R A T S D E S N T D

W W A W U G R O B T O W H E E P N E L E

B O E O E N E S S I N D R E R F L A R A

O R N D B I T N O H R R N E R G C X S G

B R E A I N D C I A A D Y V N O J R C L

A A D E R R N U L B R W U I T D N E O E

N P L M D U F L C E O G K C U D D O O W

K S O D J O A H K K I R E D S T A R T K

S G G U P M L C M V H N O F I K E L S M

W N Y N S A I N B R R A P R T W A F [illegible] T

A O V R W L T D E E F G W H I N K R T

L S U A F E G E V K M R U K I O F N S E

L A M T R A D O N F C H I D S T A H U N

O F A B R L L U G G N I R R E H R N C H

W H N P L P S C P U V A H W H I B R K T

N A T I W R A N O E C H I C K A D E E N

E S K T G R O S O N P F T E E J L T R A

T M O G N I W X A W R A D E C R H K I S

K I N G F I S H E R Y N B J H R I C T A

O L S I R E K C E P D O O W U V M A A E

K U A H I N R E L B R A W S B E M L R H

S A D R I B G N I M M U H L I S E B I P

Bald Eagle
Baltimore Oriole
Baldpate
Bank Swallow
Barred Owl
Black Tern
Bluebird
Blue Jay
Bob-White
Cardinal
Cedar Waxwing
Chickadee
Coot
Crow
Egret
Flicker
Golden Eagle
Goshawk
Gyrfalcon
Heron
Herring Gull
Hummingbird
Junco
Killdeer
Kingfisher
Kinglet
Loon
Mallard
Meadow Lark
Mourning Dove
Osprey
Oven-Bird
Pheasant
Plover
Prairie Chicken
Raven
Red-Eyed Vireo
Redstart
Robin
Sapsucker
Shrike
Snowy Owl
Song Sparrow
Starling
Teal
Thrush
Towhee
Warbler
Wood Duck
Woodpecker